

# **SR 509 & SR 167 Ext. Toll Feasibility Study Preliminary Findings**

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# The 2009 Budget Proviso

Mandates that the study, at a minimum, must include the following:

- The potential for value pricing to generate revenues for needed transportation facilities within the corridor;
- Maximizing the efficient operation of the corridor;
- Economic considerations for future system investments.

Requires WSDOT to report the study findings to the Joint Transportation Committee by September 30, 2010.

# Preliminary Findings

- Tolling is expected to contribute a substantial amount to fund the project construction, depending on phasing and financing assumptions.
  - SR 509: 40% to 90%
  - SR 167: 20 % to 50%
- Tolling is expected to create an opportunity for phasing and reducing the initial construction cost:
  - SR 509: improvements on I-5 can be scaled back significantly without worsening I-5 operation.
  - SR 167: building one side first and making it a two way operation appears to be a sensible option.
- Stakeholders are generally supportive of using tolls to partially finance the projects.

# Background

- Both projects are ready to go (with EIS and ROD).
- Both were in R-49, R-51, and RTID funding packages.
- Both got partial funding from the Nickel and TPA for design and some ROW acquisition:
  - SR 509: \$86m
  - SR 167: \$133m
- Both started off with 6 lane design, 2 GP and 1 HOV/direction, and reduced to 4 lanes in the current design/full build.
- Both have strong freight presence and make strategic port connections.
- Neither is funded for construction.

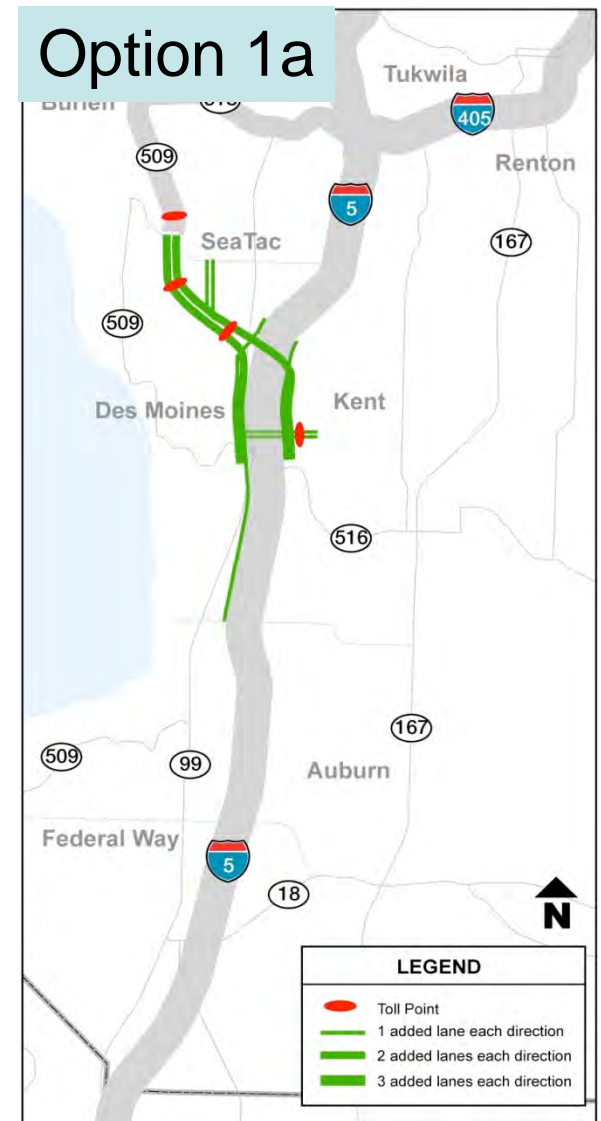
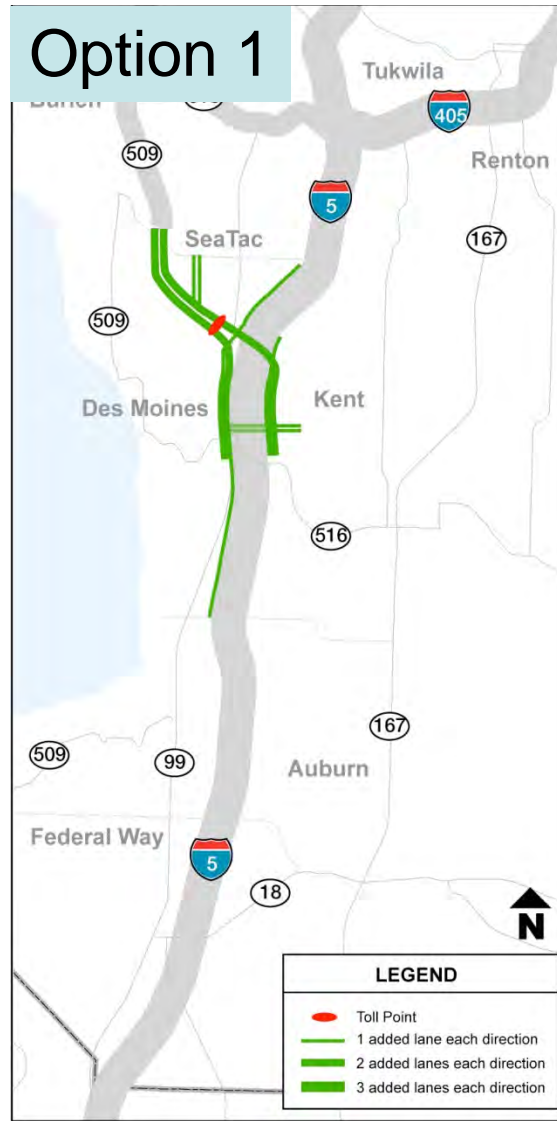
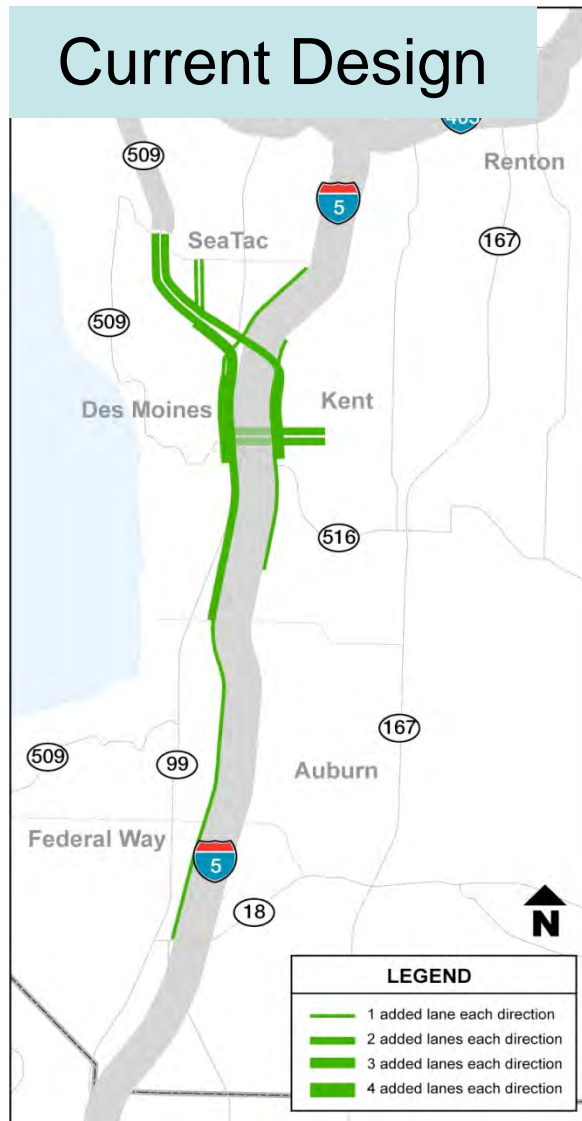
# **SR 509 Options Studied and Key Findings**

# SR 509 Current Design Configuration

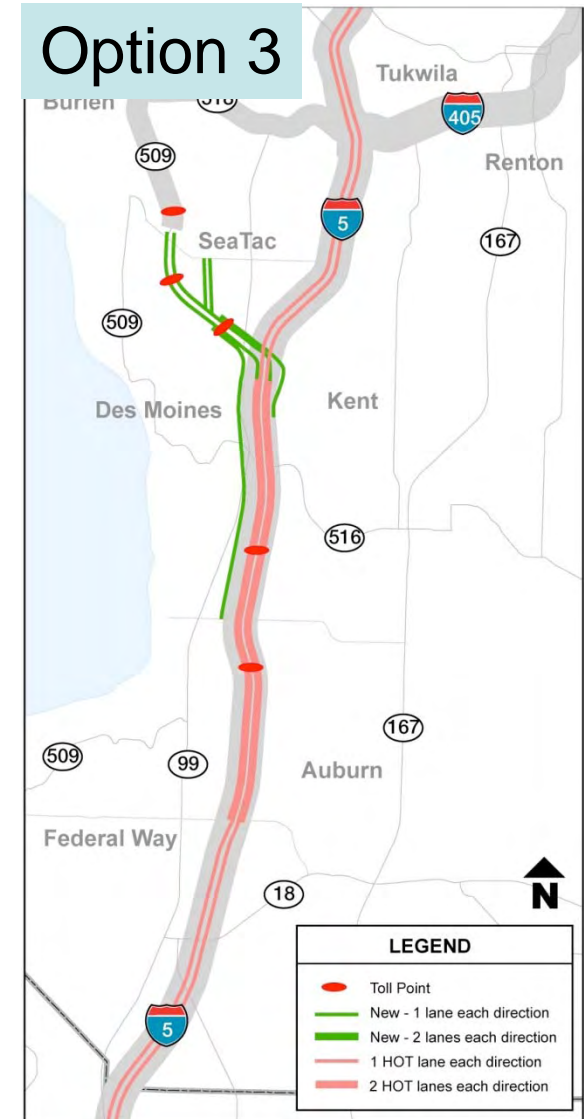
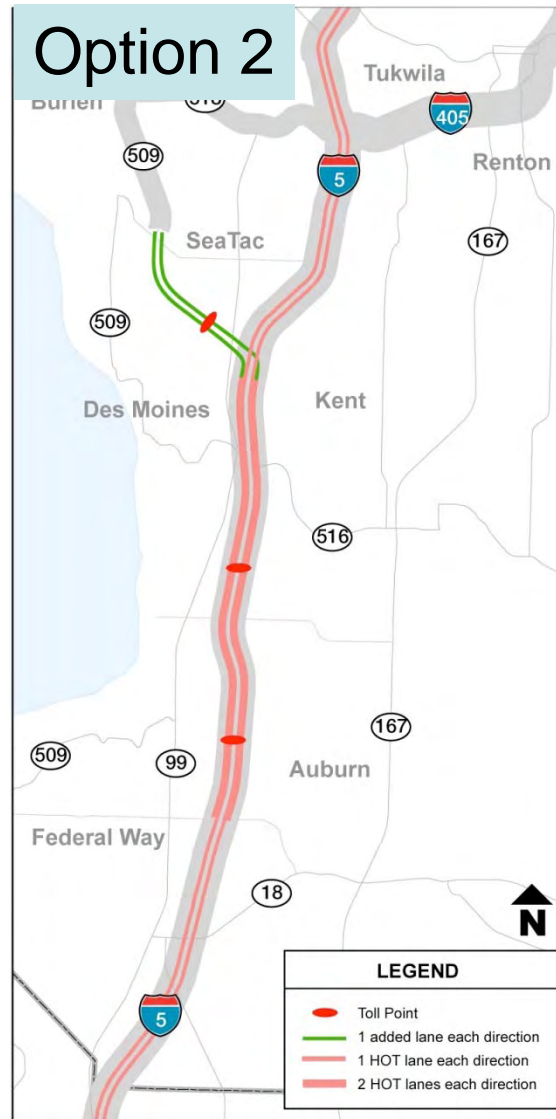
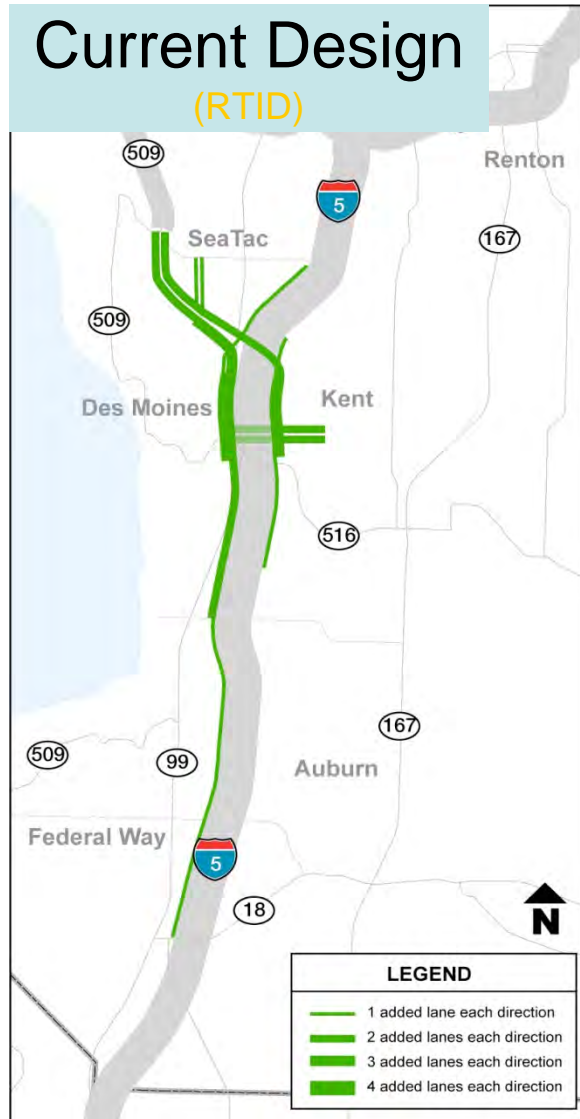
- Two lanes per direction w/SB auxiliary lane from S. Airport Access Rd to I-5.
- New connection to the airport.
- Extensive CD/Auxiliary lanes and interchange improvements on I-5.
- New 228th St connection.
- Updated cost: \$923 million in YOE.



# SR 509 Toll Concepts



# SR 509 Toll Concepts Cont'd





# SR 509 Roadway, Toll Equipment, Operation & Maintenance Costs (in \$1,000,000s)

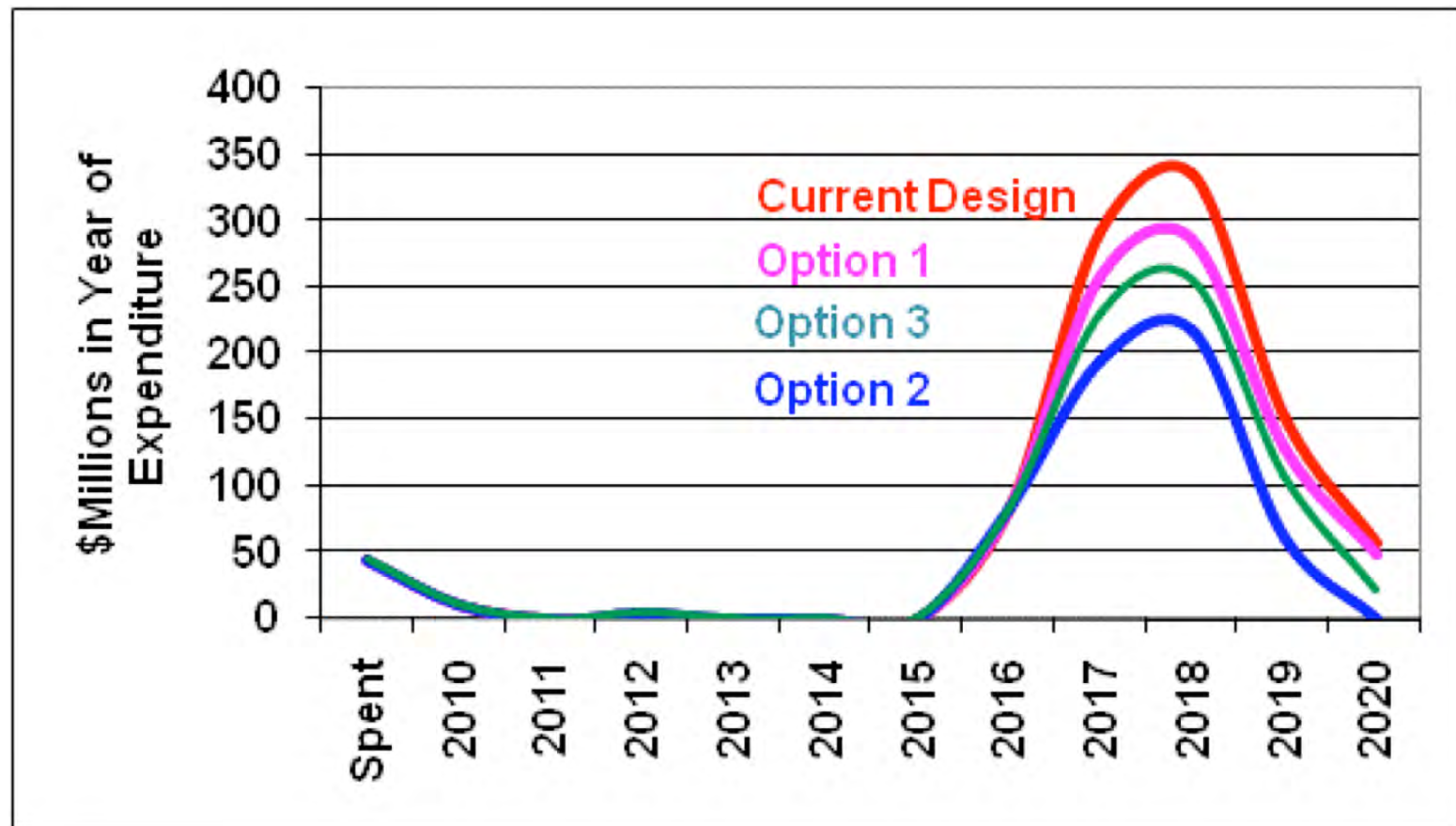
Cost Items	Current Design	Option 1	Option 1a	Option 2	Option 3
ROW, PE and CN	\$ 923	\$ 809	\$ 809	\$ 557	\$ 703
Annual M & O Cost	\$ 0.3	\$ 0.2	\$ 0.3	\$ 0.4	\$ 0.6
Repaving cost every 14 years	\$ 3.9	\$ 3.6	\$ 7.5	\$ 1.8	\$ 6.2
Initial toll capital & const. cost	\$ 7.1	\$ 6.1	\$ 16.0	\$ 33.3	\$ 35.0

**Note:**

ROW, PE and CN for all the options exclude \$63m already spent

PE, ROW and CN costs are in year of expenditure dollars, annual and recurring costs in 2010 dollars

# SR 509 Extension Expenditure Cash Flow Assumption



# SR 509 Revenue Focused Toll Rates

Time periods	Option 1	Option 1a	Option 2	Option 3
AM Peak	\$1.0-\$2.0	\$1.5-\$2.0	\$1.0-\$3.5	\$1.5-\$3.5
Midday	\$1.50	\$1.75	\$2.25	\$2.00
PM Peak	\$2.0-\$4.0	\$2.0-\$4.0	\$1.0-\$5.0	\$2.0-\$5.0
Evening	\$1.0-\$2.0	\$1.5-\$2.0	\$1.0-\$3.0	\$1.5-\$3.0
Night	\$1.00	\$1.50	\$1.00	\$1.50

Note:

- Toll rates are in 2008 dollars. Rates are preliminary and subject to change as roadway configuration and toll assumptions change. Any future toll rates would be set by the Washington State Transportation Commission.
- All vehicles except transit are assumed to pay tolls to use the extension and the existing SR 509 if it is also tolled.
- HOV 3+ are exempt from paying tolls to use I-5 HOT lanes.

# Financing Assumptions

- Maximum maturity of 30 years.
- Current Interest Bonds (CIBs) & Capital Appreciation Bonds (CABs) were assumed to tailor debt service repayment to a growing revenue stream.
- 1.50x debt service coverage.
- Average interest rate of 7.0% for CIBs & 7.75% for CABs.
- Issuance cost are 0.70% for CIBs & 1.2% for CABs.
- Bonds are issued annually throughout the construction period.

# SR 509 Extension Financial Analysis Results:

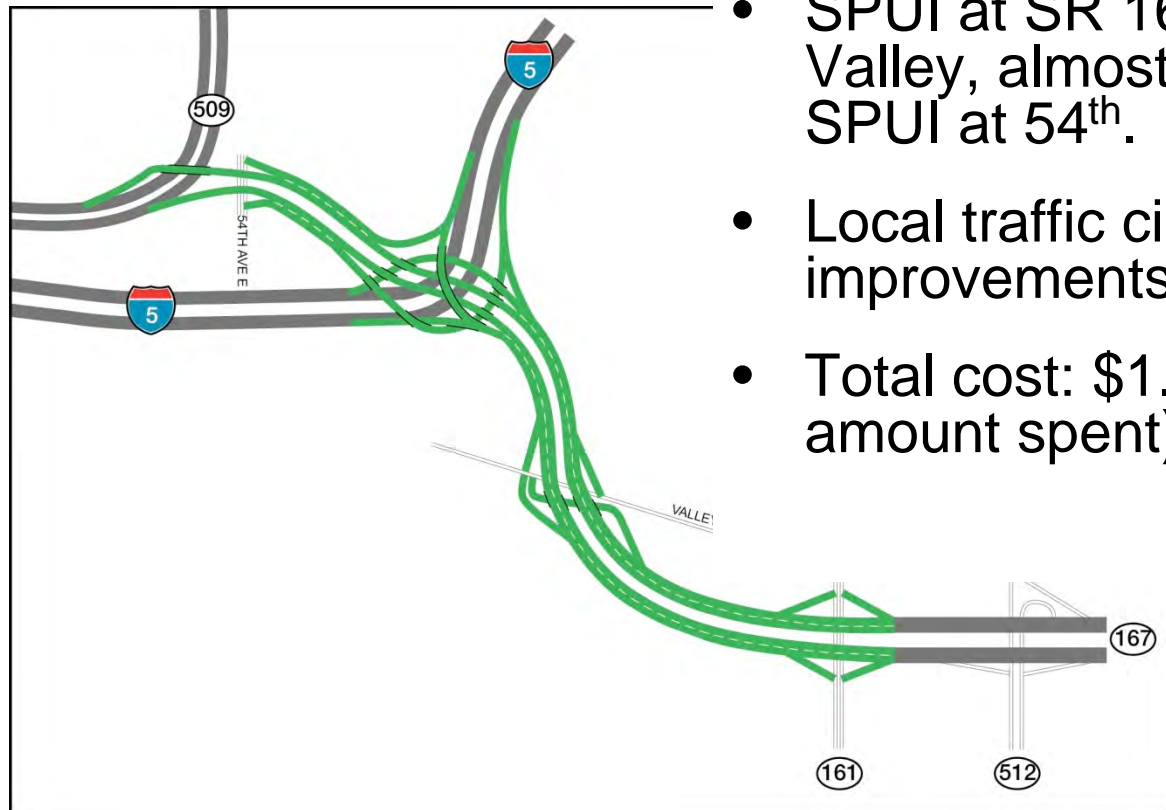
Options	Funding Needs (YOE \$s)			Toll Funding Contribution		Total Remaining Funding Gap
	Total	Upfront ROW	Design /Build	Net Toll Funding Range	% of Design/Build	
<i>Current Design</i>	\$930 M	\$120 M	\$810 M	\$310 M - \$355 M	38% - 44%	\$575 M - \$620 M
<i>Option 1</i>	\$815 M	\$120 M	\$695 M	\$310 M - \$355 M	45% - 51%	\$460 M - \$505 M
<i>Option 1a</i>	\$825 M	\$120 M	\$705 M	\$425 M - \$490 M	60% - 70%	\$335 M - \$400 M
<i>Option 2</i>	\$585 M	\$120 M	\$465 M	\$295 M - \$340 M	63% - 73%	\$245 M - \$290 M
<i>Option 3</i>	\$735 M	\$120 M	\$615 M	\$505 M - \$585 M	82% - 95%	\$150 M - \$230 M

Notes: State Fiscal Year is from July 1 to June 30, e.g., FY 2016 = 7/1/2015 to 6/30/2016

- Analysis assumes that toll bonds are issued when there is a commitment to build, in this case FY 2015.
- All Options have unfunded capital needs beginning in fiscal year 2015 and ending in fiscal year 2020.
- The low end of the funding range represents a 10% reduction in gross toll revenue to account for uncertainty.
- HOT lane (from the extension to S 317th) gross revenue is about 10% of the total gross revenue
- The total project capital costs for all options exclude the amount already spent on P/E and R/W.
- The total Remaining Funding Gap includes the remaining upfront ROW cost

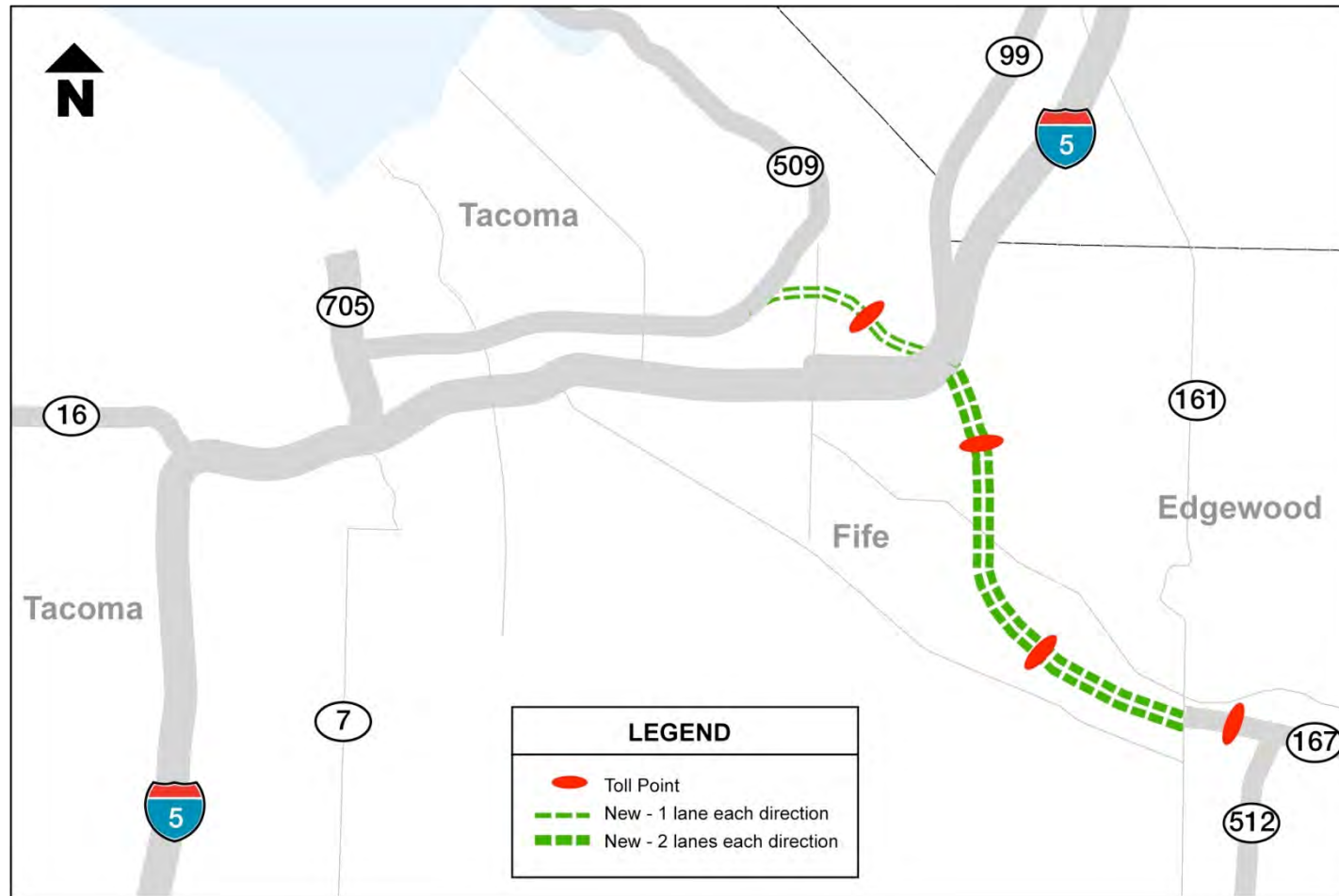
# **SR 167 Options Studied and Key Findings**

# SR 167 “Full Build” Configuration



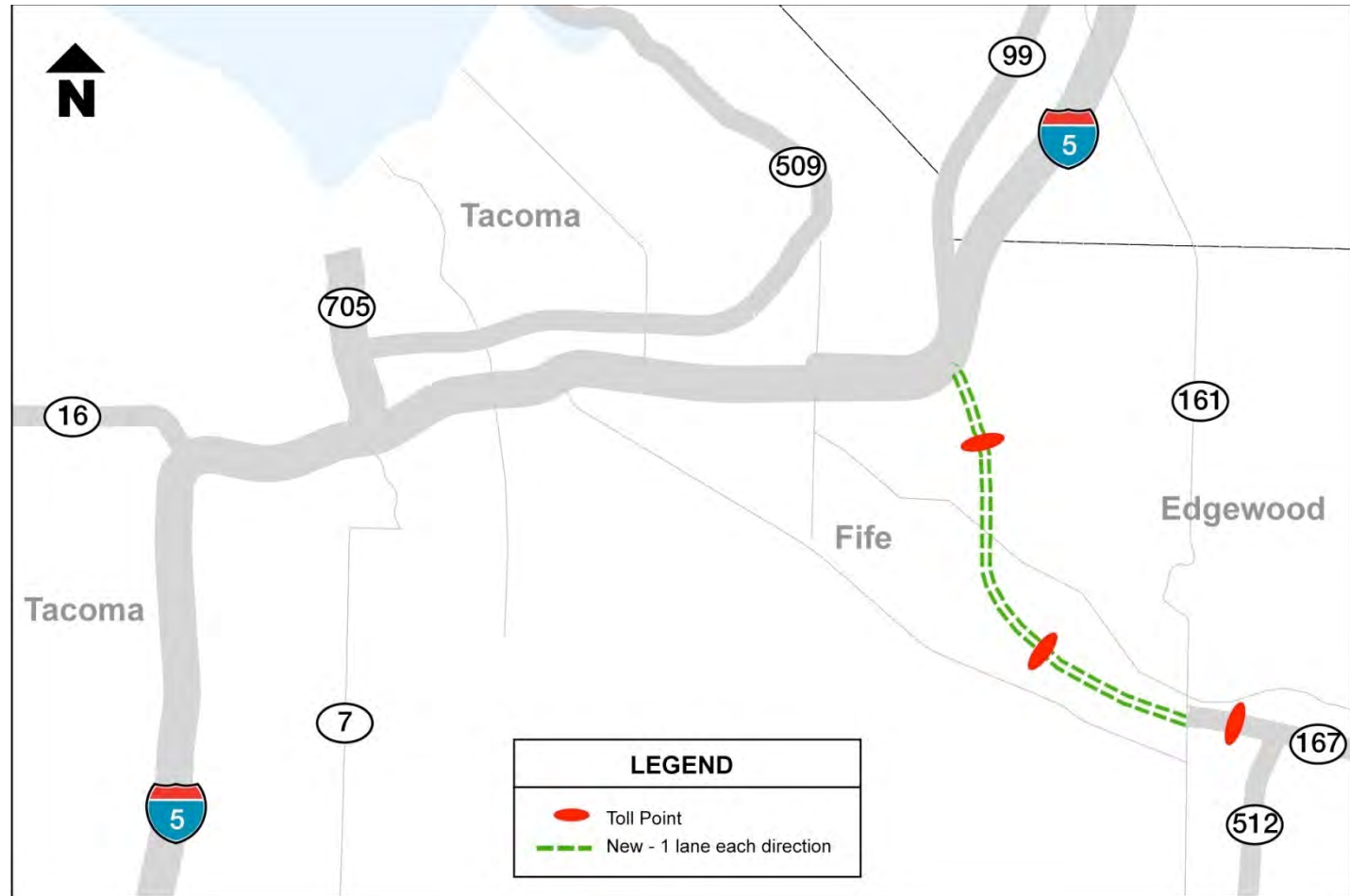
- Two lanes/dir. most of the way.
- SPUI at SR 161, Diamond I/C at Valley, almost full I/C at I-5, half SPUI at 54<sup>th</sup>.
- Local traffic circulation and mitigation improvements.
- Total cost: \$1.9B (in YOE excluding amount spent).

# SR 167 Full Build Tolling Concepts

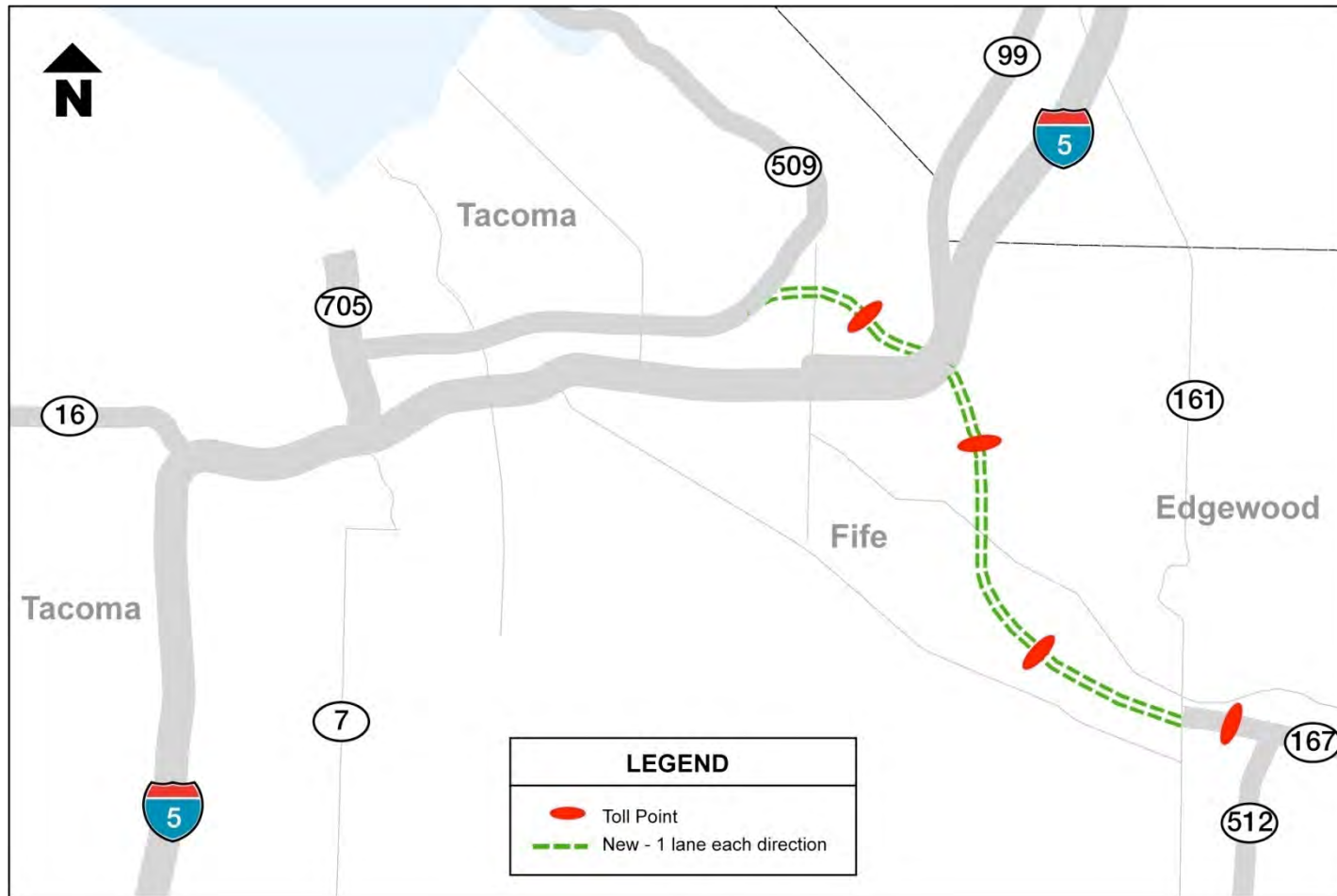




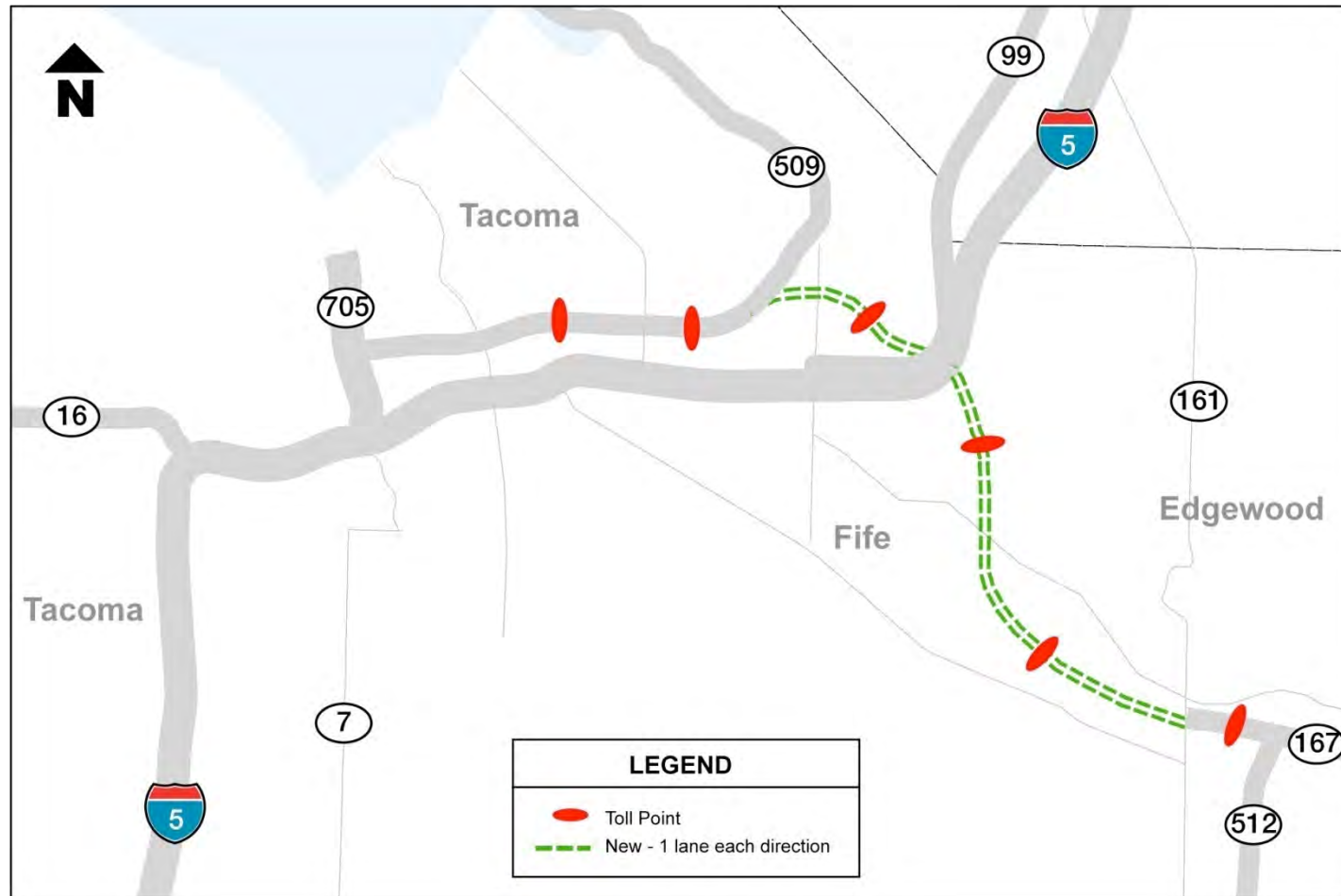
# SR 167 Option 1 Toll Concept



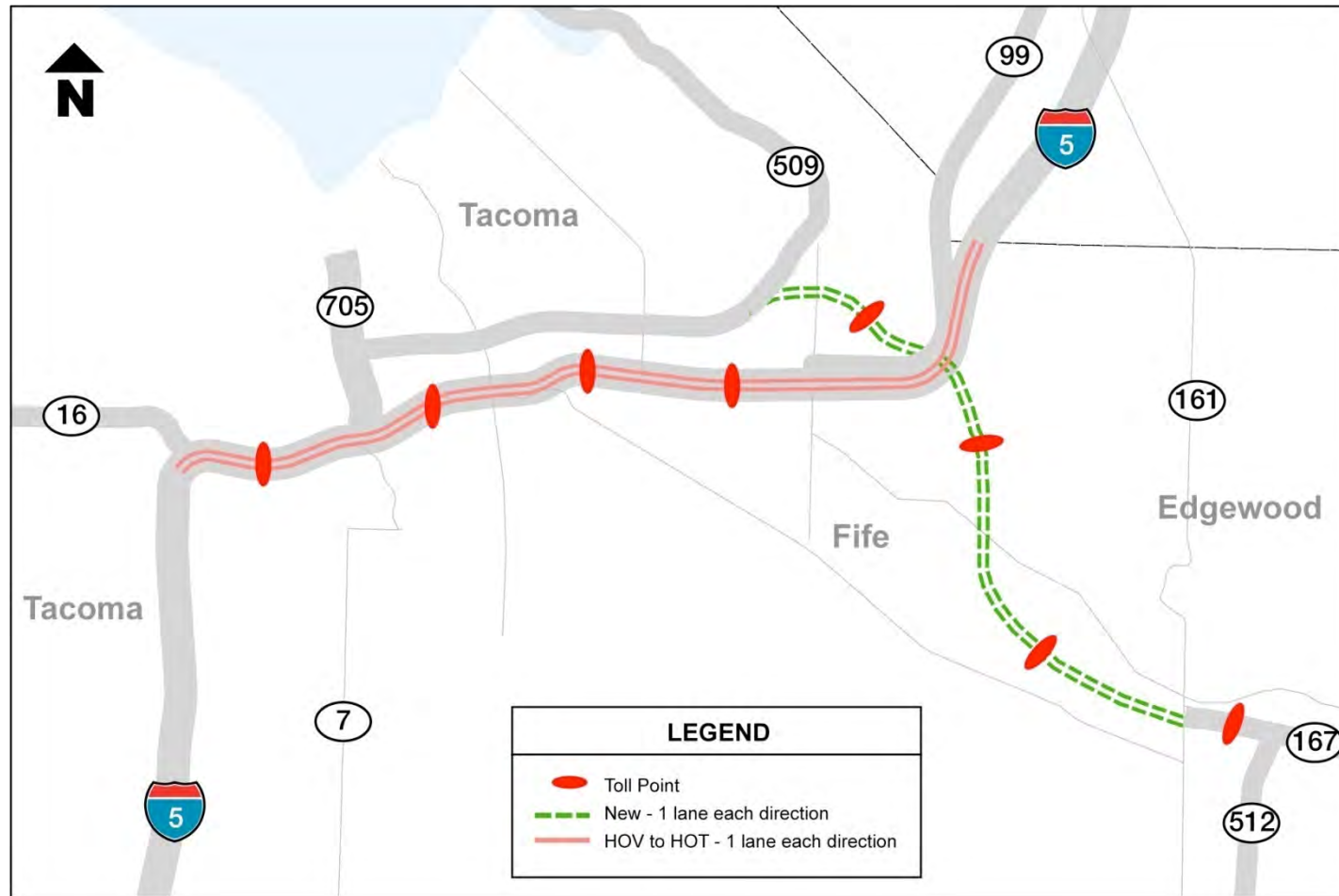
# SR 167 Option 2 Toll Concept



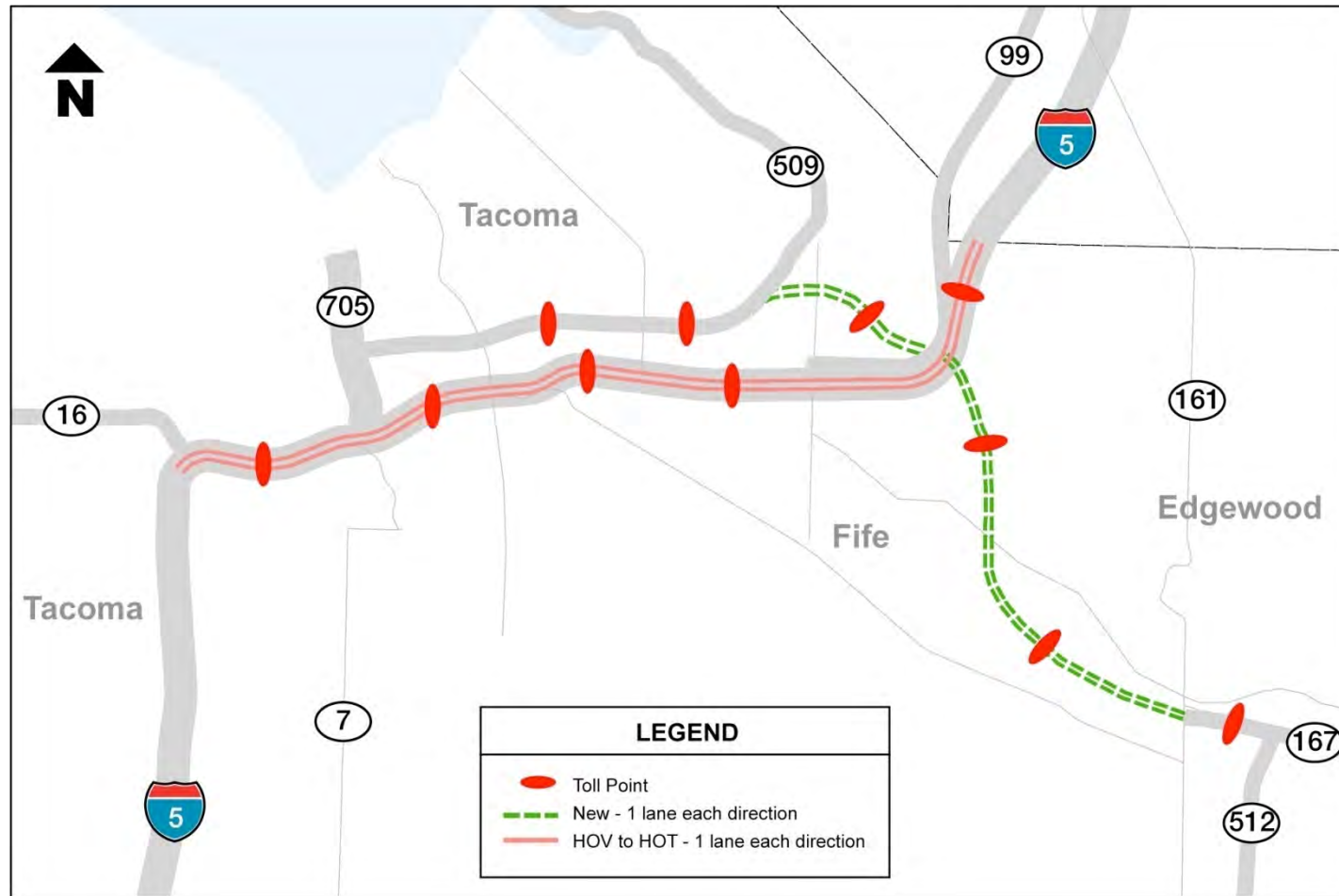
# SR 167 Option 2a Toll Concept



# SR 167 Option 2b Toll Concept



# SR 167 Option 2c Toll Concept



# SR 167 Roadway, Toll Equipment, Operation & Maintenance Costs (in \$1,000,000s)

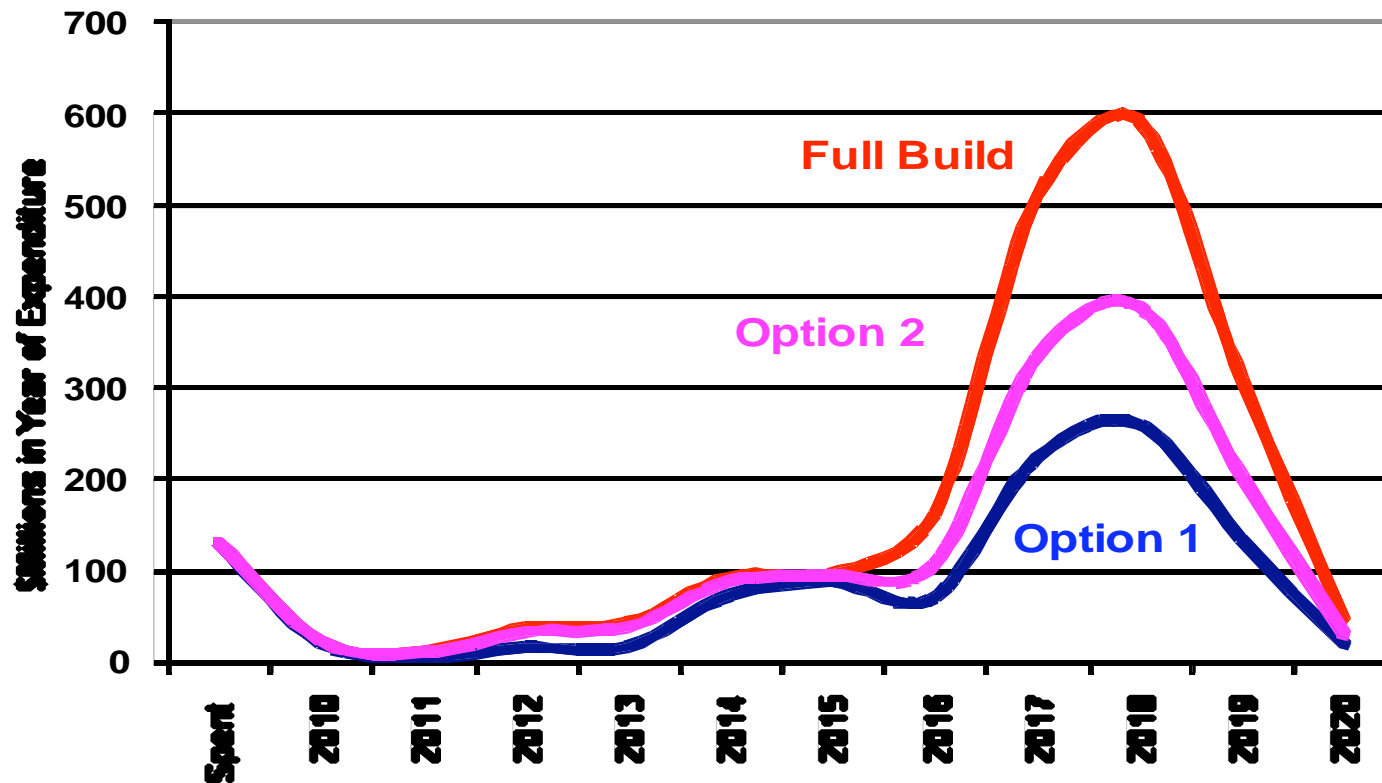
Cost Items	Full Build	Option 1	Option 2	Option 2a	Option 2b	Option 2c
ROW, PE and CN	\$ 1,898	\$ 914	\$ 1,320	\$ 1,320	\$ 1,320	\$ 1,320
Annual M & O Cost	\$ 0.2	\$ 0.1	\$ 0.2	\$ 0.3	\$ 0.4	\$ 0.5
Repaving cost every 14 years	\$ 5.5	\$ 2.5	\$ 3.6	\$ 6.5	\$ 6.7	\$ 9.7
Initial toll capital & const. cost	\$ 13.0	\$ 9.6	\$ 12.0	\$ 16.5	\$ 38.0	\$ 42.5

**Note:**

ROW, PE and CN for all the options exclude \$153m already spent

PE, ROW and CN costs are in year of expenditure dollars, annual and recurring costs in 2010 dollars

# SR 167 Project Expenditure Cash Flow Assumption



Assumptions:

PE and ROW acquisition complete by 2015

Construction assumed to start in 2016 and complete in 2020

# SR 167 “Revenue Focused” Toll Rates

Time periods	Extension East of I-5	Extension/SR 509 West of I-5		I-5 HOT lanes
		Extension Only	Ext. & SR 509	
AM Peak	\$2.0-\$3.0	\$0.75-\$1.50	\$1.0-\$2.0	\$0.20/mile
Midday	\$2.00	\$0.75	\$1.00	\$0.10/mile
PM Peak	\$2.5-\$5.0	\$0.75-\$1.50	\$1.0-\$2.0	\$0.30/mile
Evening	\$2.0-\$3.0	\$0.50-\$1.25	\$1.0-\$1.25	\$0.00
Night	\$1.00	\$0.50	\$0.75	\$0.00

## Note:

- Toll rates are in 2008 dollars. Rates are preliminary and subject to change as roadway configuration and toll assumptions change.
- All vehicles except transit are assumed to pay tolls to use the extension and the existing SR 509 if it is also tolled.
- HOV 3+ are exempt from paying tolls to use I-5 HOT lanes.



# SR 167 Extension Financial Analysis

Options	Funding Needs (YOE \$s)			Toll Funding Contribution		Total Remaining Funding Gap
	Total	Upfront PE/ROW	Const.	Net Toll Funding Range	% of Const. Cost	
<i>Full Build</i>	\$1,910 M	\$280 M	\$1,630 M	\$325 M - \$370 M	20% - 23%	\$1,540 M - \$1,585 M
<i>Option 1</i>	\$923 M	\$204 M	\$719 M	\$310 M - \$360 M	43% - 50%	\$563 M - \$613 M
<i>Option 2</i>	\$1,332 M	\$261 M	\$1,071 M	\$350 M - \$405 M	33% - 38%	\$927 M - \$982 M
<i>Option 2a</i>	\$1,336 M	\$261 M	\$1,075 M	\$390 M - \$455 M	36% - 42%	\$881 M - \$946 M
<i>Option 2b</i>	\$1,358 M	\$261 M	\$1,097 M	\$415 M - \$480 M	38% - 44%	\$878 M - \$943 M
<i>Option 2c</i>	\$1,362 M	\$261 M	\$1,101 M	\$465 M - \$545 M	42% - 49%	\$817 M - \$897 M

Notes: State Fiscal Year is from July 1 to June 30, e.g., FY 2016 = 7/1/2015 to 6/30/2016

- Analysis assumes that toll bonds are issued when there is a commitment to build, in this case FY 2015.
- All Options have unfunded capital needs beginning in fiscal year 2015 and ending in fiscal year 2020.
- The low end of the funding range represents a 10% reduction in gross toll revenue to account for uncertainty.
- The total project capital costs for all options exclude the amount already spent on P/E and R/W.
- The total Remaining Funding Gap includes the remaining upfront PE/ROW cost

# Preliminary Conclusions & Next Steps

- Tolling could contribute a substantial amount to fund the project construction while helping reduce initial phasing scope and construction cost.
- Stakeholders are generally supportive of using toll to partially finance the projects.
- Right of way need to be secured before bond issuance to reduce financing cost.
- More comprehensive toll study needs to be conducted as well as environmental clearance need to be addressed as a next step.

# Questions?

For additional information on the SR 509 & SR 167 Extension  
Toll Feasibility Study Preliminary Findings, please contact

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